What is Claimed is:

1. A process for overmolding tubes comprising the steps of:

inserting a tube of a first polymer having an inner diameter at least partially into a mold and at least partially onto a cylindrical mandrel, the mandrel having a base and a tip, an outer diameter of said mandrel dimensioned to allow the inner diameter of the tube to slide thereon, said mold containing a void which comprises:

a sealing surface region at a base of the mandrel; and

a tube contacting region adjacent the sealing surface region;

injection molding a second polymer over the tube and the mandrel in the void of the mold; and

crosslinking the first and second polymers.

2. The process of claim 1 wherein the first and second polymers are polyethylene and independently crosslinked to an initial degree and wherein the step of crosslinking independently increases the degree of crosslinking to a second higher final amount.

3. The process of claim 2 wherein the initial degree of crosslinking of the first and second polymers is independently less than 50% and the final degree of crosslinking of the first and second polymers is independently greater than or equal to about 50%.

4. The process of claim 3 wherein the initial degree of crosslinking of the first and second polymers is independently less than or equal to about 40% and the final degree of crosslinking of the first and second polymers is independently greater than or equal to about 50%.

5. The process of claim 4 wherein the initial degree of crosslinking of the first and second polymers is independently less than or equal to about 35% and the final degree of crosslinking of the first and second polymers is independently greater than or equal to about 50%.

6. The process of claim 3 wherein the initial degree of crosslinking of the first polymer is less than an initial degree of crosslinking of the second polymer.

7. The process of claim 1 wherein

the sealing surface region is selected from the group consisting of a cup-shaped void and a radiused void; and wherein

the tube contacting region is an essentially tubular void.

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8. The process of claim 7 wh[redacted] the void further comprises

an annular shelf interposed between the sealing surface region and the tube contacting region.

9. The process of claim 1 wherein the first polymer further comprises

a mesh overbraid.

10. The process of claim 1 which further comprises the step of

inserting a nut onto the first polymer after the step of injection molding.

11. The process of claim 1 which further comprises the step of

molding a retaining ring onto the first polymer tube by heating a portion of the tube posterior to the nut and compressing at least one end of the tube along a longitudinal axis of the tube, a mandrel having been inserted into the tube prior to the step of compressing.

12. A process for overmolding polyethylene tubes comprising the steps of:

inserting a tube of a first polyethylene polymer and crosslinked to an initial degree, the tube having an inner diameter at least partially into a mold and at least partially onto a cylindrical mandrel, the mandrel having a base and a tip, an outer diameter of said mandrel dimensioned to allow the inner diameter of the tube to slide thereon, said mold containing a void which comprises:

a sealing surface region at a base of the mandrel; and

a tube contacting region adjacent the sealing surface region;

injection molding a second polyethylene polymer and crosslinked to an initial degree, said initial degrees of crosslinking being selected independently for the first and second polyethylene polymers, over the tube and the mandrel in the void of the mold; and

crosslinking the first and second polymers to a final degree, said final degree of crosslinking for the first and second polymers being selected independently for the first and second polymers.

13. The process of claim 12 wherein the initial degree of crosslinking of the first and second polymers is independently less than 50% and the second final degree of crosslinking for the first and second polymers is independently greater than or equal to about 50%.

14. The process of claim 3 wherein the initial degree of crosslinking of the first and second polymers is independently about less than or equal to about 40% and the second final degree of

crosslinking for the first and second polymers is independently greater than or equal to about 50%.

15. The process of claim 14 wherein the initial degree of crosslinking of the first and second polymers is independently less than or equal to about 35% and the second final degree of crosslinking for the first and second polymers is independently greater than or equal to about 50%.

16. The process of claim 12 wherein an initial degree of crosslinking of the first polymer is less than an initial degree of crosslinking of a second polymer.

17. The process of claim 12 wherein

the sealing surface region is selected from the group consisting of a cup-shaped void and a radiused void; and wherein

the tube contacting region is an essentially tubular void.

18. The process of claim 17 wherein the void further comprises

an annular shelf interposed between the sealing surface region and the tube contacting region.

19. The process of claim 12 wherein the first polymer further comprises

a mesh overbraid.

20. The process of claim 12 which further comprises the step of

inserting a nut onto the first polymer after the step of injection molding.

21. The process of claim 12 which further comprises the step of

molding a retaining ring onto the first polymer tube by heating a portion of the tube posterior to the nut and compressing at least one end of the tube along a longitudinal axis of the tube, a mandrel having been inserted into the tube prior to the step of compressing.

22. A process for overmolding tubes comprising the steps of:

inserting a tube of a first polymer having an inner diameter at least partially into a mold and at least partially onto a cylindrical mandrel, the mandrel having a base and a tip, an outer diameter of said mandrel dimensioned to allow the inner diameter of the tube to slide thereon, said mold containing a void which comprises:

an internally threaded engaging surface region at a base of the mandrel; and

a tube contacting region adjacent the internally threaded engaging surface region;

injection molding a second polymer over the tube and the mandrel in the void of the mold; and

crosslinking the first and second polymers.

23. The process of claim 22 wherein the first and second polymers are polyethylene and independently crosslinked to an initial degree and wherein the step of crosslinking independently increases the degree of crosslinking to a second higher final amount.

24. The process of claim 23 wherein the initial degree of crosslinking of the first and second polymers is independently less than 50% and the final degree of crosslinking of the first and second polymers is independently greater than or equal to about 50%.

25. The process of claim 24 wherein the initial degree of crosslinking of the first and second polymers is independently less than or equal to about 40% and the final degree of crosslinking of the first and second polymers is independently greater than or equal to about 50%.

26. The process of claim 25 wherein the initial degree of crosslinking of the first and second polymers is independently less than or equal to about 35% and the final degree of crosslinking of the first and second polymers is independently greater than or equal to about 50%.

27. The process of claim 23 wherein the initial degree of crosslinking of the first polymer is less than an initial degree of crosslinking of the second polymer.

28. The process of claim 23 wherein

the internally threaded engaging surface region is an internally threaded annular void; and

wherein

the tube contacting region is an essentially tubular void.

29. The process of claim 28 wherein the void further comprises

an n-sided shelf interposed between the internally threaded engaging surface region and the tube contacting region and wherein

n is an integer value greater than or equal to 4.

30. The process of claim 23 wherein the first polymer further comprises

a mesh overbraid.

31. An overmolded tube which comprises:

a tube of a first polymer having an inner diameter, an outer diameter and a proximal and a distal end, said first polymer being crosslinked to a first degree;

an overmolded sealing surface region at a proximal end of the tube, said sealing surface region having a hole centrally disposed therethrough and comprised of a second polymer, said second polymer being crosslinked to a second degree, the first and second degrees of crosslinking of the first and second polymers being selected independently; and

a tube contacting region adjacent the sealing surface region and comprised of said second polymer, said tube contacting region being bonded to said tube.

32. The tube of claim 31 wherein the first and second polymers are polyethylene and wherein the density of the first and second polymers is different.

33. The tube of claim 32 wherein a final degree of crosslinking of the first and second polymers is greater than an initial degree of crosslinking of the first and second polymers.

34. The tube of claim 32 wherein

the sealing surface region is selected from the group consisting of cup-shaped and radiused; and wherein

the tube contacting region is an essentially tubular.

35. The tube of claim 34 which further comprises

an annular shelf interposed between the sealing surface region and the tube contacting region.

36. The tube of claim 31 wherein the first polymer further comprises

a mesh overbraid.

37. The tube of claim 35 which further comprises

a nut having a hole centrally disposed therethrough, a diameter of the hole being large enough to pass over the outer diameter of the tube yet smaller than a diameter of the annular shelf.

38. The tube of claim 37 which further comprises

a molded retaining ring on the tube, an outer diameter of the retaining ring being sufficient to retain the nut on the tube.

39. The tube of claim 33 wherein a final degree of crosslinking of the first and second polymers is greater than about 60% and an initial degree of crosslinking of the first and second polymers is less than about 50%.

40. An overmolded tube which comprises:

a tube of a first polymer having an inner diameter, an outer diameter and a proximal and a distal end, said first polymer being crosslinked to a first degree;

an overmolded internally threaded engaging surface region at a proximal end of the tube, said internally threaded engaging surface region being essentially hollow and comprised of a second polymer, said second polymer being crosslinked to a second degree, the first and second degrees of crosslinking of the first and second polymers being selected independently; and

a tube contacting region adjacent the internally threaded engaging surface region and comprised of said second polymer, said tube contacting region being bonded to said tube.

41. The tube of claim 40 wherein the first and second polymers are polyethylene and wherein the density of the first and second polymers is different.

42. The tube of claim 41 wherein a final degree of crosslinking of the first and second polymers is greater than an initial degree of crosslinking of the first and second polymers.

43. The tube of claim 41 wherein

the internally threaded engaging surface region is a threaded annular void; and wherein

the tube contacting region is an essentially tubular void.

44. The tube of claim 43 wherein the void further comprises

an n-sided shelf interposed between the threaded engaging surface region and the tube contacting region and wherein

n is an integer value greater than or equal to 4.

45. The tube of claim 41 wherein the first polymer further comprises

a mesh overbraid.

46. The tube of claim 42 wherein the final degree of crosslinking of the first and second polymers is greater than about 60% and an initial degree of crosslinking of the first and second polymers is less than about 50%.

47. A process for overmolding tubes comprising the steps of:

inserting a tube of a first polymer having an inner diameter at least partially into a mold and at least partially onto a cylindrical mandrel, the mandrel having a base and a tip, an outer diameter of said mandrel dimensioned to allow the inner diameter of the tube to slide thereon, said mold containing a void which comprises:

an externally threaded engaging surface region at a base of the mandrel; and

a tube contacting region adjacent the internally threaded engaging surface region;

injection molding a second polymer over the tube and the mandrel in the void of the mold; and

crosslinking the first and second polymers.

48. The process of claim 47 wherein the first and second polymers are polyethylene and independently crosslinked to an initial degree and wherein the step of crosslinking independently increases the degree of crosslinking to a second higher final amount.

49. The process of claim 48 wherein the initial degree of crosslinking of the first and second polymers is independently less than 50% and the final degree of crosslinking of the first and second polymers is independently greater than or equal to about 50%.

50. The process of claim 49 wherein the initial degree of crosslinking of the first and second polymers is independently less than or equal to about 40% and the final degree of crosslinking of the first and second polymers is independently greater than or equal to about 50%.

51. The process of claim 50 wherein the initial degree of crosslinking of the first and second polymers is independently less than or equal to about 35% and the final degree of crosslinking of the first and second polymers is independently greater than or equal to about 50%.

52. The process of claim 48 wherein the initial degree of crosslinking of the first polymer is less than an initial degree of crosslinking of the second polymer.

53. The process of claim 48 wherein

the externally threaded engaging surface region is a threaded annular void; and wherein

the tube contacting region is an essentially tubular void.

54. The process of claim 53 wherein the void further comprises

an n-sided shelf interposed between the internally threaded engaging surface region and the tube contacting region and wherein

n is an integer value greater than or equal to 4.

55. The process of claim 48 wherein the first polymer further comprises

a mesh overbraid.

56. An overmolded tube which comprises:

a tube of a first polymer having an inner diameter, an outer diameter and a proximal and a distal end, said first polymer being crosslinked to a first degree;

an overmolded externally threaded engaging surface region at a proximal end of the tube, said externally threaded engaging surface region comprised of a second polymer, said second polymer being crosslinked to a second degree, the first and second degrees of crosslinking of the first and second polymers being selected independently; and

a tube contacting region adjacent the internally threaded engaging surface region and comprised of said second polymer, said tube contacting region being bonded to said tube.

57. The tube of claim 56 wherein the first and second polymers are polyethylene and wherein the density of the first and second polymers is different.

58. The tube of claim 57 wherein a final degree of crosslinking of the first and second polymers is greater than an initial degree of crosslinking of the first and second polymers.

59. The tube of claim 57 wherein

the externally threaded engaging surface region is a threaded annular void; and wherein

the tube contacting region is an essentially tubular void.

60. The tube of claim 59 wherein the void further comprises

an n-sided shelf interposed between the threaded engaging surface region and the tube contacting region and wherein

n is an integer value greater than or equal to 4.

61. The tube of claim 57 wherein the first polymer further comprises

a mesh overbraid.

62. The tube of claim 58 wh[redacted] the final degree of crosslinking of th[redacted]t and second polymers is greater than about 60% and an initial degree of crosslinking of the first and second polymers is less than about 50%.